

App. No. 09/722,774

Amendment Dated July 30, 2004

Reply to final Office Action of June 16, 2004

### Amendments to the Claims

Please amend the claims as follows:

1. (currently amended) A computer-implemented method for compressing data, the method comprising:

collecting the data to be compressed using at least one probe;

determining difference information as a function of the type of data to be compressed;

and

responding to the difference information satisfying a size constraint by encoding the difference information with reference to a set of commonly occurring difference values for a type of the data to be compressed;

accumulating the difference information in a buffer; and

compressing the difference information such that the type of probe is independent of the type of data to be compressed.

2. (original) The method of claim 1, further comprising, before determining the difference information, storing an initial counter value for the data to be compressed.

3. (currently amended) The method of claim 1, further comprising:  
~~accumulating the encoded difference information in a buffer; and~~  
storing the contents of the buffer in a profiling data file in response to the buffer accumulating a predetermined amount of difference information.

4. (cancelled)

5. (original) The method of claim 1, further comprising, if the difference information is timestamp difference information, encoding the difference information as an unsigned quantity with reference to a set of commonly occurring timestamp difference values.

6. (currently amended) The method of claim 1, further comprising, if the difference information is stack difference information[[]]:

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encoding the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and

reconstructing a sign of ~~a~~ the stack difference value from a context of one of: function entry and function exit.

7. (original) The method of claim 1, further comprising, if the difference information is stack difference information, dividing a quantity represented by the difference information by four before encoding the difference information.

8. (currently amended) The method of claim 1, further comprising, if the type of data to be compressed ~~is represents~~ stack data information collected upon entry to and exit from a function, recording a single difference value for the stack data information.

9. (currently amended) A computer-implemented method for compressing profiling data, the method comprising:  
collecting the profiling data using at least one probe;  
determining difference information as a function of the type of collected profiling data;  
if the profiling data is timestamp data, encoding the difference information as an unsigned quantity with reference to a set of commonly occurring timestamp difference values;  
~~and~~  
if the profiling data is stack data[[,]]:  
encoding the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and  
reconstructing a sign of ~~a~~ the stack difference value from a context of one of:  
function entry and function exit;  
accumulating the difference information in a buffer; and  
compressing the difference information such that the type of probe is independent of the type of profiling data.

10. (currently amended) A computer-readable medium having stored thereon computer-executable modules comprising:

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at least one probe, configured to collect profiling data during execution of an application;  
and

a buffer, configured to:

determine difference information as a function of the type of profiling data, and  
respond to the difference information satisfying a size constraint by encoding the  
difference information with reference to a set of commonly occurring difference values  
for a type of the profiling data,

accumulate the difference information, and

compress the difference information such that the type of probe is independent of  
the type of profiling data.

11. (currently amended) The computer-readable medium of claim 10, wherein the  
buffer is further configured to, before determining the difference information, store an initial  
counter value for the profiling data to be compressed.

12. (currently amended) The computer-readable medium of claim 10, ~~wherein the  
buffer is further configured to accumulate the encoded difference information, and wherein the~~  
computer-executable modules further comprise a logger, configured to receive and store the  
contents of the buffer in a profiling data file in response to the buffer accumulating a  
predetermined amount of difference information.

13. (currently amended) The computer-readable medium of claim 12, wherein the  
buffer is further configured to, ~~in response to accumulating the predetermined amount of  
difference information, compress the contents of the buffer and transfer the compressed contents~~  
of the buffer to the logger.

14. (original) The computer-readable medium of claim 10, wherein the buffer is  
further configured to, if the difference information is timestamp difference information, encode  
the difference information as an unsigned quantity with reference to a set of commonly occurring  
timestamp difference values.

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15. (currently amended) The computer-readable medium of claim 10, wherein the buffer is further configured to, if the difference information is stack difference information;  
    encode the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and  
    reconstruct a sign of a the stack difference value from a context of one of; function entry and function exit.

16. (original) The computer-readable medium of claim 10, wherein the buffer is further configured to, if the difference information is stack difference information, divide a quantity represented by the difference information by four before encoding the difference information.

17. (currently amended) The computer-readable medium of claim 10, wherein the buffer is further configured to, if the type of profiling data ~~is to be compressed represents~~ stack data that is information collected upon entry to and exit from a function, record a single difference value for the stack data information.

18. (currently amended) A computer-readable medium having stored thereon computer-executable modules comprising:  
    at least one probe, configured to collect profiling data during execution of an application;  
    and  
    a buffer, configured to:  
        determine difference information as a function of the type of collected profiling data,  
        if the type of profiling data is timestamp data, encode the difference information as an unsigned quantity with reference to a set of commonly occurring timestamp difference values, and  
        if the type of profiling data is stack data[[]];  
            encode the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and

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reconstruct a sign of ~~a~~ the stack difference value from a context of one of:  
function entry and function exit,  
accumulate the difference information, and  
compress the difference information such that the type of probe is independent of  
the type of profiling data.

19. (currently amended) A computer arrangement comprising:  
at least one probe, configured to collect profiling data during execution of an application;  
and

a buffer, configured to:  
determine difference information as a function of the type of profiling data, and  
respond to the difference information satisfying a size constraint by encoding the  
difference information with reference to a set of commonly occurring difference values  
for the a type of the profiling data,  
accumulate the difference information, and  
compress the difference information such that the type of probe is independent of  
the type of profiling data.

20. (currently amended) The computer arrangement of claim 19, wherein the buffer  
is further configured to, before determining the difference information, store an initial counter  
value for the profiling data to be compressed.

21. (currently amended) The computer arrangement of claim 19, ~~wherein the buffer~~  
~~is further to configured to accumulate the encoded difference information, and~~ wherein the  
computer-executable modules further comprise a logger, configured to receive and store the  
contents of the buffer in a profiling data file in response to the buffer accumulating a  
predetermined amount of difference information.

22. (original) The computer arrangement of claim 21, wherein the buffer is  
further configured to, in response to accumulating the predetermined amount of difference

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information, ~~compress the contents of the buffer and~~ transfer the compressed contents to the logger.

23. (original) The computer arrangement of claim 19, wherein the buffer is further configured to, if the difference information is timestamp difference information, encode the difference information as an unsigned quantity with reference to a set of commonly occurring timestamp difference values.

24. (currently amended) The computer arrangement of claim 19, wherein the buffer is further configured to[[,]]:

if the difference information is stack difference information, encode the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and

reconstruct a sign of ~~a~~ the stack difference value from a context of one of: function entry and function exit.

25. (original) The computer arrangement of claim 19, wherein the buffer is further configured to, if the difference information is stack difference information, divide a quantity represented by the difference information by four before encoding the difference information.

26. (currently amended) The computer arrangement of claim 19, wherein the buffer is further configured to, if the profiling data ~~is to be compressed~~ represents stack data ~~information~~ collected upon entry to and exit from a function, record a single difference value for the stack data ~~information~~.

27. (currently amended) A computer arrangement comprising:  
at least one probe, configured to collect profiling data during execution of an application;  
and  
a buffer, configured to:

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determine difference information as a function of the type of collected profiling data,

if the type of profiling data is timestamp data, encode the difference information as an unsigned quantity with reference to a set of commonly occurring timestamp difference values, and

if the type of profiling data is stack data;

encode the difference information as an unsigned quantity with reference to a set of commonly occurring stack difference values, and

reconstruct a sign of a the stack difference value from a context of one of: function entry and function exit,

accumulate the difference information, and

compress the difference information such that the type of probe is independent of the type of profiling data.

Claims 28-33 (cancelled)